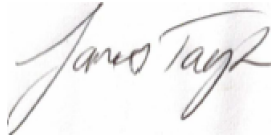


Warrambeen Offset Management
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 Shelford 3329

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Landowner of offset site	Ian, Trish and James Taylor
Location and address of offset site	“Woolly and Creek Paddocks” Lot 1 TP16458 Warrambeen Pty Ltd, Rokewood – Shelford Rd, Shelford.
Offset Proponent	Rosenthal
Responsible Authority	Golden Plains Shire, DSE and DEWHA
Report number / Year Start Year	Year 6 / 2020 2015
Type of Offset Size of Offset	Vegetation and Golden Sun Moth 86 Ha
Signature	
Date	04 th February 2020

Information to be included:

- A copy of the Management Action Table from the OMP with information on which actions have been completed for the year/s of this reporting period;
- A description of the specific monitoring results from surveys undertaken for vegetation/flora species;
- A description of the specific monitoring results from surveys undertaken for significant fauna species, such as the Golden Sun Moth
- Fencing work;
- Success of weed and pest animal control work;
- Successful management tools (i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.);
- Any problems or issues experienced (i.e. new infestation of weed species, storm damage to fencing, etc.)
- Include any corrective actions and contingency measures where monitoring indicates that there has been a degradation in the native vegetation and Golden Sun Moth population and habitat; and,



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Summary of Independent Monitoring Assessment

(Excerpt from Ecology & Heritage Partners Final Vegetation Assessment Jan 2021)

“The Rosenthal offset site will continue to provide suitable habitat and is likely to support a high population of Golden Sun Moth under the current management regimes outlined within the approved OMP (Ecology Partners Pty Ltd 2015).”

“The 2020/21 monitoring period shows that there is a general consistency in the coverage of annual low threat weeds, such as Wild Oat when compared to the last few years of monitoring. Furthermore, there has been a reduction in biomass levels to the recommended biomass control target level for three of the four habitat zones. This has demonstrated that the altered grazing regime implemented during the 2019 and 2020 period (as per the revised OMP) has helped maintain weed cover and reduce biomass levels.”

Monitoring results for vegetation/flora species

(Excerpt from Ecology & Heritage Partners Final Vegetation Assessment Jan 2021)

“The offset site is continuing to provide suitable habitat for Golden Sun Moth, however a decrease in the number of Golden Sun Moth was recorded during the 2020/21 monitoring period at the site compared to previous Year 2 and Year 3 monitoring events. These lower numbers (relative to Year 2 and Year 3) are likely the result of the survey being conducted relatively early in the flying season (mid-November). Nevertheless, the 2020/21 (Year 6) monitoring season demonstrated that a population of Golden Sun Moth is still present and utilising the full extent of the habitat present within the Rosenthal Offset Site.

Vegetation monitoring of the Rosenthal Offset site indicated that the altered grazing regime has had a positive effect on biomass control, with three out of the four habitat zones (PG1, PG2 and PG3) having reached the recommended biomass control target (70%). Sheep are currently used to periodically graze the paddock to control biomass. Whilst there are no signs of pugging within the offset site, the altered grazing regime has resulted in a less herb-rich understorey, and therefore a return to the original grazing regime is recommended for the 2021/22 monitoring period.

It is anticipated that provided the Management Actions are implemented per the revised OMP it is expected that targets for biomass and weed cover will be met over a period of several years.”

GSM Monitoring

(Excerpt from Ecology & Heritage Partners Final Vegetation Assessment Jan 2021)

Targeted surveys identified a total of 65 Golden Sun Moth flying within the offset site on 19 November 2020. The species were recorded consistently across the site and were located predominantly within areas containing preferred host plants including Wallaby-grasses and Spear Grass (Figure 3). Golden Sun Moth were detected in lower abundances than during the previous Year 2 and Year 3 monitoring seasons.



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However, the lower numbers (relative to Year 2 and Year 3) is likely due to the survey being conducted relatively early in the flying season (mid-November). Additional surveys during warmer, drier conditions further into the flying season would likely record the species in higher abundance. Nevertheless, the 2020/21 (Year 6) monitoring season demonstrated that a population of Golden Sun Moth is still present and utilising the full extent of the habitat present within the Rosenthal Offset Site.

Date	Survey times	Reference Site	Temperature (°C) (9am and 3pm)		Wind (km/hr)	Cloud cover (%)	No. of days since rain	No. GSM
19/11/2020	10:11 – 11:57	Flying during survey	21.6	34.5	24	0	>2	65

Table 1: Golden Sun Moth survey results during the 2020/21 flight season.

Comment by Landowner: We would like to see a number of monitoring attempts on the site rather than just the one day. Our budget allows for multiple visits. For next year we will request a minimum of 2 to 3 visits from the GSM monitoring provider on separate days for a much longer period.

Successful management tools

(i.e. techniques used to control weed species, protection of new plants, monitoring technique, etc.)

(Excerpt from Ecology & Heritage Partners Final Vegetation Assessment Jan 2021)

“Recent management efforts have led to the successful elimination of mature Spear Thistle. Serrated Tussock was present on site; however, all individuals were observed to be sprayed. Regeneration of Saffron Thistle is still occurring. Ongoing control will ensure the species does not re-establish within the study area.

The vegetation assessment revealed that biomass cover has generally decreased since the previous assessments and has overall responded positively to the implementation of the Management Actions as per the endorsed OMP (Ecology and Heritage Partners Pty Ltd 2015).

(Landowner note: We have not eliminated spear thistle. This is an extremely unlikely outcome given the level of weeds. We are extremely happy with the impact of our ongoing works but we do not agree that they have been eliminated completely.)

It is understood that an extended grazing period was implemented during the 2019 and 2020 periods. This has demonstrated a positive effect on biomass levels, with three out of the four habitat zones having reached the recommended biomass control target (70%). Furthermore, PG4 is currently only slightly above the target level, and it is likely that with ongoing management, this habitat zone will reach the recommended target by the next monitoring period (2021/22).

Weed cover has remained consistent with the most recent previous vegetation assessments, with PG4 the only habitat zone to experience an increase in the cover of low threat weeds. This was mainly due to the increased prevalence of Wild Oat. Medium threat weed cover is low across the study area (5%), and is only slightly above the target level of less than five percent.



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High threat weed cover across the study area is low and due to the ongoing management efforts has reached the recommended target level of less than one percent.”

Corrective actions and contingency measures

(Where monitoring indicates that there has been a change in the native vegetation and Golden Sun Moth population and habitat)

Approval from the DoEE to extend the grazing period beyond the original window of September 1, was achieved and sheep were grazed longer during 2019. This increased grazing was effective in reducing biomass and weed cover across the Rosenthal Offset. During 2020 the offset was grazed heavily within weather and OMP constraints to help meet targets.

Warrambeen continued an intensive 3 pass weed program which included; hand spraying and manual chipping of high threat weeds to continue to reduce their seed set.

Photos

Photographs on USB stick are available on request

Weed and pest animal control work

Biomass Control:

(Excerpt from Ecology & Heritage Partners Final Vegetation Assessment Jan 2021)

The vegetation assessment revealed that biomass cover has generally decreased since the previous assessments and has overall responded positively to the implementation of the Management Actions as per the endorsed OMP (Ecology and Heritage Partners Pty Ltd 2015).

Offset area	Sheep in	No.	Sheep Out
Rosenthal	20/05/2020	827 B Flock Ewes	01/06/2020 (12 days)
	29/06/2020	100 B Flock Singles	27/08/2020 (59 days)
	23/11/2020	507 A Flock Singles	03/11/2020 (11 days)
	16/11/2020	1172 Offset mob	07/12/2020 (21 days)



Weed Cover / Control:

Phil Spark and four staff, were engaged to grid spray paddock

- Fluroproponate, Round Up, Amine, Galon and colour dye.
- Worst area for oats north west corner up to blue devil fence line, being treated and monitored
- Sage patches improved on last year, continued with target spraying to ensure further progress in years to come. We are very happy with the level of wild sage control achieved
- Chemical Invoice attached see Appendix 3.
- Photos of Weed Control see Appendix 4.

Fox and Rabbit Control:

- Ongoing shooting programme was maintained every second month with registered shooters.
- 1 new warren has been located which was treated appropriately and will be monitored
- See Appendix 5

Fencing work

Fencing undergoes regular checks and maintenance as per the Farm program, all are in good condition and stock proof

Management Plan 2021

The current vegetation assessment by Ecology and Heritage Partners Pty Ltd. determined that the Rosenthal offset site supports the Plains Grassland Ecological Vegetation Class, present in varying conditions across the site.

During 2020 the Rosenthal offset was grazed relatively hard to help reduce biomass and meet targets. This in conjunction with the 3 pass weed control program proved to be an effective weed management strategy. This will continue throughout 2021 however grazing we will return to a less intense regime and focus on broadleaf weed control for wild Sage and Spear thistle.

Attachments

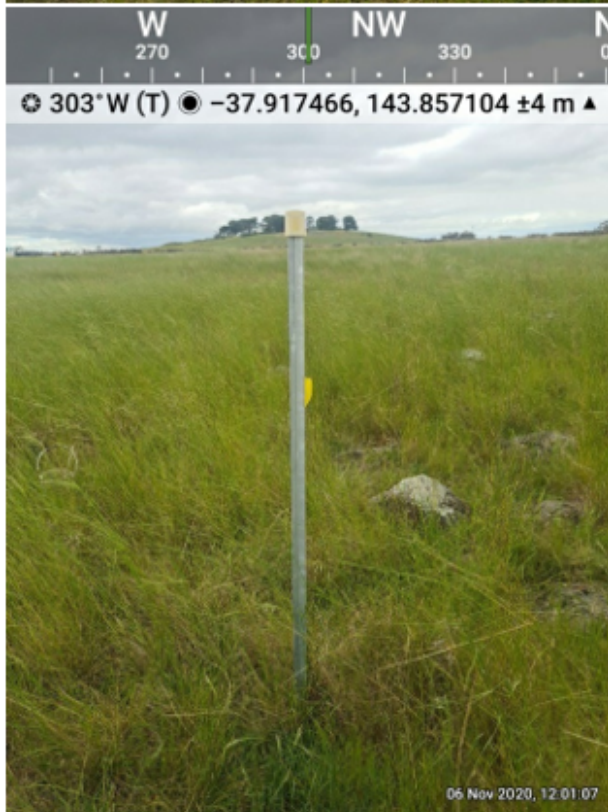
Photos - Taken 6th November 2020



PhotoPoint 346



PhotoPoint 349



PhotoPoint 348

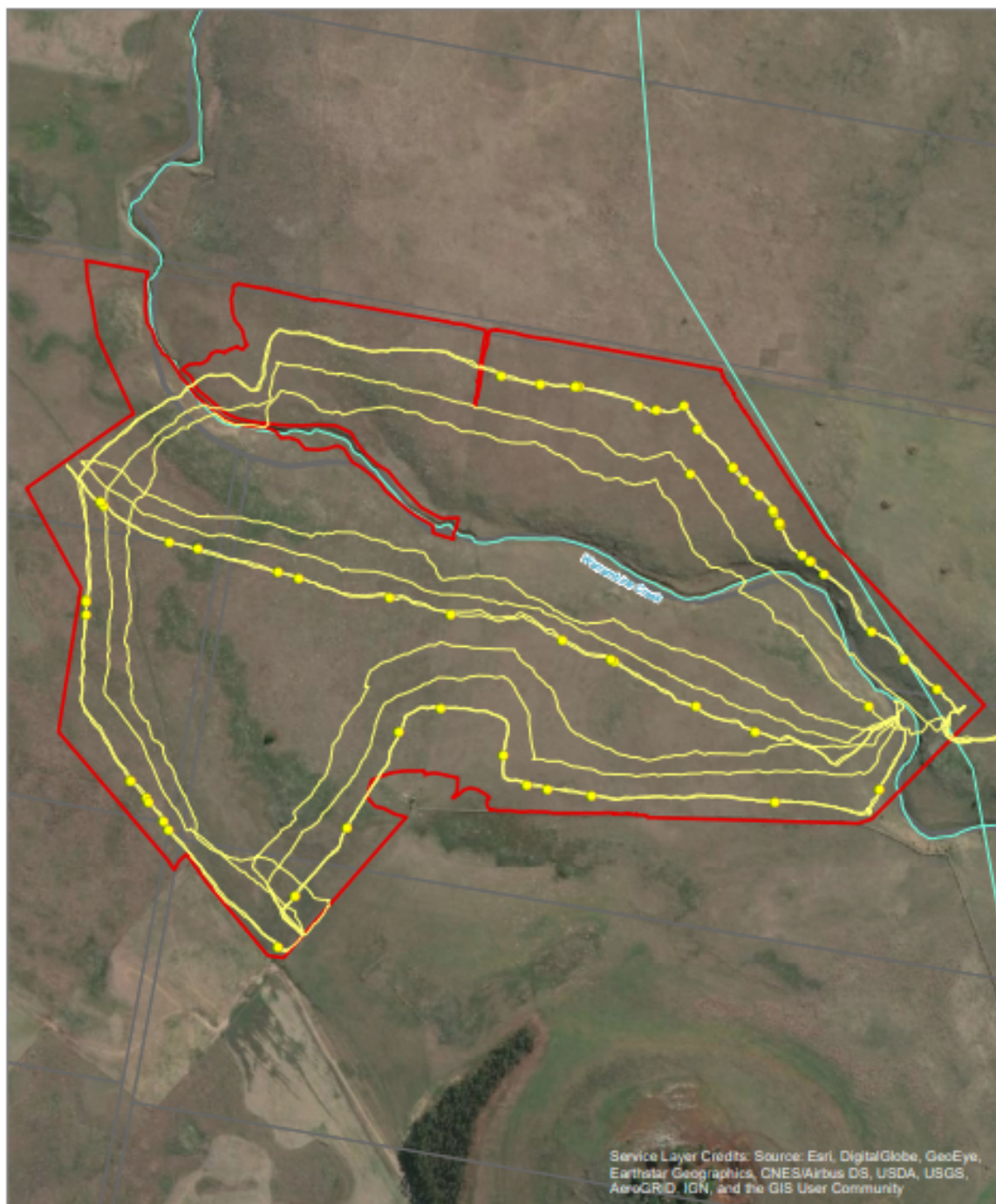


PhotoPoint 347

Appendix 1 - Management Action Tables

Yr	Action	Management Action	Responsible authority/ personnel	Timing of action	Completed (yes/No)	Date
6	6.1	Conduct weed control	Landowner/Bushland Management Contractor	Species dependent	Yes	Oct-Nov 2020 Jan-Feb 2021
6	6.2	Monitor populations of pest animals and conduct control works if required	Landowner/Pest Animal Contractor	After peak breeding season-late summer/early autumn	Yes (by registered shooter)	Every 2 months
6	6.3	Conduct monitoring for vegetation and Golden Sun Moth	Suitably qualified ecological specialist	Six years after commencement of OMP	Yes	Nov 2020
6	6.4	Maintain fences	Landowner/Fencing Contractor	As required	Yes	As per farm schedule
6	6.5	Monitor biomass density and implement stock grazing regime or develop ecological burn/ fuel reduction plan if appropriate	Landowner/Bushland Management Contractor/CFA	Summer/Autum n	Yes	May -August 2020 Nov-Dec 2020

Appendix 2 - GSM Population

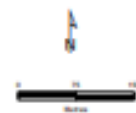


Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 3
Golden Sun Moth
population and habitat
monitoring
 Warrambeen Group 3
 Areas B1, B2 and E

Legend

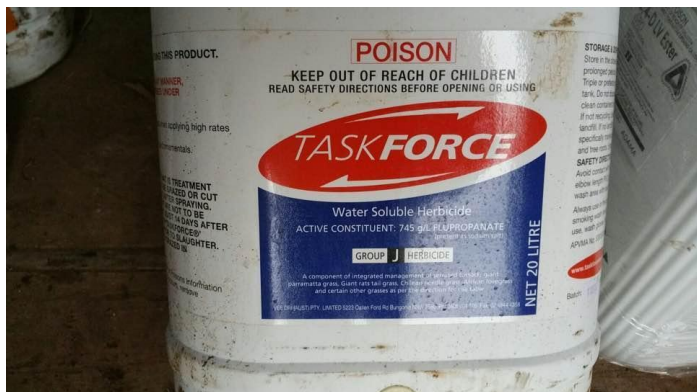
- Rosenthal Estate Offset Area
- Property Boundaries
- Golden Sun Moth records (survey 19/11/2020)
- Golden Sun Moth survey tracks (survey 19/11/2020)



VolMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so at the risks that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

7636_Pfig02_0039_0000_20/11/2020_jgm/whm

Appendix 3 – Chemical Drum



Appendix 4 – Weed Control



Spear grass looking good, weed control team in paddock.



Small patch of sage spot sprayed (dye)



Chipping Rosenthal nith side

Appendix 5 – New Rabbit Warren found in Rosenthal

